



**MAASAI MARA UNIVERSITY**  
**REGULAR UNIVERSITY EXAMINATIONS**  
**2021/2022 ACADEMIC YEAR**  
***FOURTH YEAR FIRST SEMESTER***

**SCHOOL OF BUSINESS AND ECONOMICS**  
**BACHELOR OF SCIENCE IN FINANCIAL**  
**ECONOMICS**

**COURSE CODE: ECF 4104**

**COURSE TITLE: CAPITAL BUDGETING**

**DATE: APRIL 2022**

**TIME: 2HRS**

---

**INSTRUCTIONS TO CANDIDATES**

Answer Question **ONE** and any other **THREE** Questions

*This paper consists of 5 printed pages. Please turn over.*

### Question one

a) Discuss the capital budgeting process. **(10 marks)**

b) From the following information, calculate the net present value of project X and Y and suggest which of the two projects should be accepted at a discount rate of 10%. **(5 marks)**

	<b>Project X</b>	<b>Project Y</b>
Initial Investment	Ksh. 20,000	Ksh. 30,000
Estimated Life	5 years	5 years
Scrap Value	Ksh. 1,000	Ksh. 2,000

The profits before depreciation and after taxation (cash flows) are as follows:

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.
Project X	5,000	10,000	10,000	3,000	2,000
Project Y	20,000	10,000	5,000	3,000	2,000

c) Gordon is faced with a major executive decision about the choice of a project from two competing projects costing sh. 120,000 each. The criteria for the choice of a better project are based on the payback period. The following data are relative to these individual projects that are mutually exclusive.

<b>Year</b>	<b>Project A</b>	<b>Project B</b>
1	40,000	100,000
2	50,000	80,000
3	60,000	40,000
4	70,000	30,000

You are required to recommend the best project using payback period. **(6 marks)**

d) Highlight four limitations of internal rate of return. **(4 marks)**

### Question two

a) Discuss three importance of capital rationing in capital budgeting. **(6 marks)**

- b) Jalozi Ltd., is considering the purchase of a new investment. Two alternative investments are available (X and Y) each costing Ksh. 150,000. Cash inflows are expected to be as follows:

Year	Investment X Ksh.	Investment Y Ksh.
1	60,000	65,000
2	45,000	55,000
3	35,000	40,000
4	30,000	40,000

- The company has a target return on capital of 10%. Risk premium rate are 2% and 8% respectively for investment X and Y. Which investment should be preferred? **(6 marks)**
- c) Mr. Orion has won a litigation case and is expecting to receive Ksh. 5000 at the end of each year for the next 30 years. What is the present value of Ksh. 5000 due to be received at the 7% discount rate? **(3 marks)**

### Question three

- a) There are two projects' Stone and Break each involves an investment of Ksh. 50,000. The expected cash inflows and the certainty coefficient are as under:

Year	Project Stone		Project Break	
	Cash inflows	Certainty Coefficient	Cash inflows	Certainty coefficient
1	35,000	0.8	25,000	0.9
2	30,000	0.7	35,000	0.8
3	20,000	0.9	20,000	0.7

- Risk-free cutoff rate is 10%. Suggest which of the two projects should be preferred. **(6 marks)**
- b) Mr. Selva is considering two mutually exclusive project 'X' and 'Y'. You are required to advise him about the acceptability of the projects from the following information. **(6 marks)**

	<b>Investment X Ksh.</b>	<b>Investment Y Ksh.</b>
Cost of investment	100,000	100,000
Forecast cash inflows p.a. for 5 years	60,000	55,000
Optimistic	35,000	30,000
Most likely	20,000	20,000
Pessimistic		

(The discount rate is assumed to be 15%).

c) You are provided with the following information:

Risk free is currently 6%

Market return is 12%

Systematic risk of the firm equity in relation to the market is 1.4

Using CAPM determine firms cost of equity capital. **(3 marks)**

#### Question four

a) From the following information, ascertain which project should be selected on the basis of standard deviation. **(6 marks)**

<b>Project X</b>		<b>Project Y</b>	
<b>Cash inflow</b>	<b>Probability</b>	<b>Cash inflow</b>	<b>Probability</b>
Ksh.		Ksh	
3,200	0.2	32,000	0.1
5,500	0.3	5,500	0.4
7,400	0.3	7,400	0.4
8,900	0.2	8,900	0.1

b) A company has on its books the following amounts and specific costs of each type of capital.

Type of capital	Book value	Market value	Specific costs (%)
Debt	400,000	380,000	5
Preference	100,000	110,000	8
Equity	600,000	900,000	15
Retained Earnings	200,000	300,000	13

Determine the weighted average cost of capital using:

- (i) Book value weights. **(3 marks)**
- (ii) Market value weights. **(3 marks)**
- (iii) How are they different? Can you think of a situation where the weighted average cost of capital would be the same using either of the weights? **(3 marks)**

### **Question five**

- a) Define the following terminologies as used in capital budgeting:
  - i) Independent projects **(2 mark)**
  - ii) Conventional cash flow projects **(2 mark)**
  - iii) Economic value added **(2 mark)**
- b) In a given economy the real rate is 6% and the expected inflation rate is 8%. Calculate the nominal rate. **(3 marks)**
- c) Highlight three assumptions of certainty equivalent technique in capital budgeting. **(3 marks)**
- d) Project X is expected to generate a cashflow of Ksh. 10,000. The project is risky but the management feels that it will get at least a cashflow of Ksh. 6000. What is the certainty coefficient? **(3 marks)**